CLAIMS

What is claimed is:

1. A method of channel selection for a mobile station comprising:

determining a position of said mobile station;

periodically performing channel quality measurements of signals transmitted from one or more base stations, wherein a frequency of performing said channel quality measurements is a function of said position of said mobile station.

2. The channel selection method of claim 1 wherein said frequency of performing said channel quality measurements is a function of the relative position of said mobile station with respect to a first base station serving said mobile station.

3. The channel selection method of claim 1 wherein said frequency of performing said channel quality measurements is a function of the relative position of said mobile station with respect to a first base station serving said mobile station and at least one additional base station.

4. The channel selection method of claim 3 wherein said position of said at least one additional base station is transmitted to said mobile station by said first base station.

5. The channel selection method of claim 7 wherein said position of said at least one additional base station is included in a neighbor list transmitted to said mobile station by said first base station.

6. The channel selection method of claim 1 wherein said frequency of performing said channel quality measurements is a function of the mobility of said mobile station.

7. The channel selection method of claim 6 wherein said frequency of performing said channel quality measurements is a function of the rate of change of said position of said mobile station.

8. The channel selection method of claim 6 wherein said frequency of performing said channel quality measurements is a function of the length of time said mobile station remains in said position.

9. The channel selection method of claim 1 wherein said channel quality measurements are performed by said mobile station while said mobile station is in an idle mode.

10. The channel selection method of claim 1 wherein said channel quality measurements are performed by said mobile station while said mobile station is engaged in a packet switched call.

11. The channel selection method of claim 1 wherein said channel quality measurements are performed by said mobile station while said mobile station is engaged in a circuit switched call.

12. The channel selection method of claim 1 wherein said mobile station uses said channel quality measurement for cell reselection.

13. The channel selection method of claim 1 further including transmitting said channel quality measurements from said mobile station to a first base station serving said mobile station.

14. The channel selection method of claim 13 further including making hand-off determinations at said first base station based on said channel quality measurements.

15. A method of determining the position of a mobile station comprising:

determining a position of said mobile station at a first time instant; and

updating said position periodically, wherein a frequency of said updating is a function of said position of said mobile station.

16. The method of claim 15 wherein said frequency of updating said position is a function of the relative position of said mobile station with respect to a first base station serving said mobile station.

17. The method of claim 15 wherein said frequency of updating said position is a function of the relative position of said mobile station with respect to a first base station serving said mobile station and at least one of said additional base station.

18. The channel selection method of claim 17 wherein the position of said at least one additional base station is transmitted to said mobile station by said first base station.

19. The method of claim 18 wherein said position of said at least one additional base station is included in a neighbor list transmitted to said mobile station by said first base station.

20. The method of claim 15 wherein said frequency of updating said position is a function of the mobility of said mobile station.

21. The method of claim 20 wherein said frequency of updating said position is a function the rate of change of said position of said mobile station.

22. The channel selection method of claim 20 wherein said frequency of updating said position is a function of the length of time said mobile station remains in said position.

23. The method of claim 15 wherein said updating is performed by said mobile station while said mobile station is in an idle mode.

24. The method of claim 15 wherein said updating is performed by said mobile station while said mobile station is engaged in a packet switched call.

25. The method of claim 15 wherein said updating is performed by said mobile station while said mobile station is engaged in a circuit switched call.

26. The method of claim 15 further including transmitting position information from said mobile station to said base station.

27. A method for channel selection by a mobile station comprising:

serving said mobile station with a first base station;

generating a list of neighboring base stations and corresponding positions for each said neighboring base stations; and

transmitting said at least one list of neighboring base stations and corresponding positions for each of said neighboring base stations to said mobile station.

28. The method of claim 27 wherein said step of transmitting said list of neighboring base stations and corresponding positions for each of the neighboring base stations is transmitted on a broadcast channel.

29. The method of claim 27 wherein said step of transmitting said list of neighboring base stations and corresponding positions for each of the neighboring base stations is transmitted on a point-to-point channel.

30. The method of claim 27 including wherein said list includes a plurality of area definitions, and wherein said neighboring base stations in said list are associated with at least one of said area definitions in said list.

31. A mobile station comprising:

a transceiver transmitting and receiving radio frequency signals;

a signal processor operatively connected to said transceiver, said signal processor periodically performing channel quality measurements on selected signals received by said transceiver;

control logic controlling said signal processor and said transceiver to vary the frequency of performing said channel quality measurements as a function of the position of said mobile station.

32. The mobile station of claim 31 wherein said control logic varies the frequency of performing said channel quality measurements based on the relative position of said mobile station with respect to a first base station serving said mobile station.

33. The mobile station of claim 31 wherein said control logic varies the frequency of performing said channel quality measurements based on the relative position of said

mobile station with respect to a first base station serving said mobile station and at least one additional base station.

34. The mobile station of claim 31 wherein said control logic varies the frequency of performing said channel quality measurements based on the mobility of said mobile station.

35. The mobile station of claim 34 wherein said control logic varies the frequency of performing said channel quality measurements based on the rate of change of said position of said mobile station.

36. The mobile station of claim 34 wherein said control logic varies the frequency of performing said channel quality measurements based on the length of time said mobile station remains in said position.

37. The mobile station of claim 31 further including a positioning receiver for determining the position of said mobile station.

38. A mobile station comprising:

a transceiver transmitting and receiving radio frequency signals;

a positioning receiver periodically determining a position of said mobile station;

control logic controlling said transceiver and said positioning receiver, wherein said control logic varies the frequency of determining said position of said mobile station as a function of said position.

39. The mobile station of claim 38 wherein said control logic varies the frequency of determining said position of said mobile station based on the relative position of said mobile station with respect to a first base station serving said mobile station.

40. The mobile station of claim 38 wherein said control logic varies the frequency of determining said position of said mobile station based on the relative position of said mobile station with respect to a first base station serving said mobile station and at least one additional base station.

41. The mobile station of claim 38 wherein said control logic varies the frequency of determining said position of said mobile station based on the mobility of said mobile station.

42. The mobile station of claim 38 wherein said control logic varies the frequency of determining said position of said mobile station based on the rate of change of said position of said mobile station.

43. The mobile station of claim 38 wherein said control logic varies the frequency of determining said position of said mobile station based on the length of time said mobile station remains in said position.

44. A method of controlling a mobile station comprising:

determining a position of said mobile station; and

performing a periodic task, wherein a frequency of performing said task is a function of said position of said mobile station.

45. The control method of claim 44 wherein said frequency of performing said periodic task is a function of the relative position of said mobile station with respect to a first base station serving said mobile station.

46. The control method of claim 44 wherein said frequency of performing said periodic task is a function of the relative position of said mobile station with respect to a first base station serving said mobile station and at least one additional base station.

47. The control method of claim 44 wherein said frequency of performing said periodic task is a function of the mobility of said mobile station.

48. The control method of claim 47 wherein said frequency of performing said periodic task is a function the rate of change of said position of said mobile station.

49. The control method of claim 47 wherein said frequency of performing said channel quality measurements is a function of the length of time said mobile station remains in said position.